EXHIBIT R

UNITED STATES DISTRICT COURT

EASTERN DISTRICT OF PENNSYLVANIA

DELAWARE COUNTY EMPLOYEES RETIREMENT SYSTEM and BUCKS COUNTY EMPLOYEES' RETIREMENT SYSTEM, Individually and on Behalf of All Others Similarly Situated,	)	Civ. Action No. 2:21-cv-03382-HB
Plaintiffs,	)	
vs.	)	
ADAPTHEALTH CORP. f/k/a DFB HEALTHCARE ACQUISITIONS CORP., LUKE MCGEE, STEPHEN P. GRIGGS, JASON CLEMENS, FRANK J. MULLEN, RICHARD BARASCH, JOSHUA PARNES, ALAN QUASHA, TERENCE CONNORS, DR. SUSAN WEAVER, DALE WOLF, BRADLEY COPPENS, and DAVID S. WILLIAMS III,	)	
Defendants.	)	

EXPERT REPORT OF PROFESSOR DANIEL TAYLOR

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I. Introduction

A. Scope of Engagement

Class Counsel Robbins Geller Rudman & Dowd LLP retained me to conduct two analyses. First, to analyze the economic implications of the Depository Trust Company ("DTC") holding securities in "fungible bulk" and allocating associated rights on a *pro rata* basis. Second, to offer an opinion on whether there are methodologies that would allow one to trace securities ownership in modern markets.

My opinions provided in this Report are based on (1) a review of documents relevant to this case, (2) an economic analysis of holding securities in "fungible bulk" and the *pro rata* allocation of associated rights, (3) my knowledge and expertise with first-in first-out (FIFO) and last-in first-out (LIFO) accounting methods, (4) my experience reviewing stock trading records, (5) my experience and expertise teaching relevant topics as the Arthur Andersen Chaired Professor at The Wharton School, (6) my expertise and experience writing numerous peer-reviewed studies on the trading activity on stock markets and other accounting-related issues raised in this litigation, and (7) my private-sector experience advising the Department of Justice, hedge funds, and law firms on related matters.

B. Summary of Opinions

As set forth in this report, my opinions include:

(1) The technological infrastructure involved with securities transfers has evolved considerably since Section 11 of the Securities Act of 1933 was conceived by Congress. Notions of share tracing that are premised on the concept of physical exchange of shares, a concept that dates to the mid-20th century, are anachronistic. In modern markets, it is atypical for shares to be physically exchanged between buyers and sellers, instead, with few exceptions, shares are retained in fungible bulk at the DTC and associated economic interests are allocated on a *pro rata* basis. If accepted by courts, anachronistic notions of tracing that rely on physical exchange of shares would appear to not only narrow, but effectively eliminate, the private right of action under Section 11.

(2) The economic implications of holding securities in fungible bulk and allocating associated economic interests on a *pro rata* basis, as it relates to Section 11, are as follows. Section 11 provides a private right of action to purchasers of a security in a public offering. In economics, such a right has economic value. Once the securities in the offering are deposited at the DTC and become part of the fungible bulk, all of the rights associated with those securities are allocated on a *pro rata* basis to all individuals (and entities) who hold an interest in the fungible bulk. Rather than diminish rights under Section 11, from an economic perspective, *pro rata* assignment of associated rights can be viewed as doing the opposite—as broadening the private right of action to include all individuals who hold an interest in the fungible bulk at the time the shares in question are deposited at the DTC.

(3) Because of changes in technological infrastructure in markets, various approaches to share tracing that have been previously offered are either radically underinclusive—and would effectively removing standing—or overinclusive, effectively providing standing to all who own interest in the fungible bulk. Timestamped account-level transaction records, in conjunction with FIFO and LIFO accounting methods can be used by parties and courts to trace securities ownership in modern markets.

This Report is organized as follows. In the remainder of this section, I explain my qualifications to serve as an expert witness, my publication record, my compensation agreement for this case, the basis for my opinion, and the documents which I considered in rendering my opinion. In Section II, I elaborate on the basis for my opinions and describe my analysis. In Section III, I summarize my conclusions.

C. Summary of Qualifications

I, Daniel Taylor, am the Arthur Andersen Chaired Professor at The Wharton School. I have taught at Wharton since 2010. My research focuses on stock trading activity, corporate disclosure, and other accounting-related issues. I have authored more than two dozen scientific articles on these topics and serve on the editorial board of three major scientific journals that publish articles on related topics. My research on stock trading activity is frequently cited in rules and regulations promulgated by the U.S. Securities and Exchange Commission ("SEC") and has been used in multiple investigations by the U.S. Department of Justice.

Additionally, at Wharton, I taught Introduction to Financial Accounting for eight years which covers FIFO and LIFO accounting methods. In addition, I serve as the director of The Wharton Forensic Analytics Lab. The Lab aims to be the world's foremost source of research and teaching expertise on the application of data analytics to issues related to insider trading, financial irregularities, and white-collar crime.

In addition to my research and teaching, during my time at The Wharton School, I have advised the Department of Justice, hedge funds, law firms, and a Big 4 auditor on a variety of topics including stock trading activity and accounting-related issues. I have a Ph.D. in Business from the Stanford University Graduate School of Business, an M.A. in Economics from Duke University, and a B.S. in Economics from the University of Delaware. I have attached my resume as Exhibit 1.

D. Academic Publications

Over the past decade, I have published numerous studies in peer-reviewed scientific journals that discuss stock trading activity. Exhibit 1 provides a full list of articles. In addition, I joined over a dozen distinguished law professors in co-authoring an amici curiae brief in the *Slack Technologies v. Pirani* case before the Supreme Court. This brief is included as Exhibit 2 and bears directly on the issues relevant to the current case. It explains in detail how FIFO and LIFO accounting methods combined with timestamped, account-level transaction records maintained by the Financial Industry Regulatory Authority ("FINRA") and the SEC can be used to trace securities ownership in modern markets.

E. Conflicts of Interest, Prior Expert Opinions, and Compensation

I have no financial interest in the outcome of this case, or any relation—financial or otherwise—to the parties involved in this case. I have not previously testified in court or been deposed in any cases. My professional billing rate is $1,300 per hour. The opinions in this Report are my own, and my fees for preparing this Report and serving as an expert witness in this case are not contingent on the opinions presented herein or on the outcome of the proceedings.

F. Basis of Opinion

My opinions are based on my knowledge and expertise on stock trading activity and other accounting-related issues developed as an academic researcher and teacher at The Wharton School, as well as my practical experience advising government agencies, investment firms, law firms, and auditing firms on related issues. Based on my training and experience, I am deeply familiar with issues relevant to this case. I believe that my academic and practical experience qualifies me to render an expert opinion on the economic issues raised in this litigation. I do not hold a law degree. None of the opinions in this report or that I would offer during testimony should be considered opinions on matters of law. I am approaching this assignment as an economist and providing my views from that perspective.

This Report sets forth a summary of the testimony I expect to provide in this matter. The Report does not provide a verbatim account of my expected testimony, and my testimony may address additional topics in response to arguments or assertions raised by Defendants or their experts during the course of the proceedings.

G. Documents Considered

In preparation for writing this Report, I requested that counsel provide me with access to documents in connection with this litigation. Counsel provided all requested documents. I conducted a detailed review and analysis of this material, focusing primarily on the share tracing issues raised throughout. In reviewing these materials and reaching the opinions outlined herein, I applied my expertise on economic property rights, stock trading activity, and other accounting-related issues.

Specifically, I reviewed:

(1) The Amended Complaint;
(2) Defendants' Opposition to Certify Class;
(3) Report of Defendants' Expert Jack Wiener ("Wiener Report")
(4) Deposition of Defendants' Expert Jack Wiener
(5) Amici curiae brief in the *Slack Technologies v. Pirani* case before the Supreme Court (Exhibit 2)

II. Evolution of Tracing

A. The Anachronistic View of Tracing

I understand that, in Section 11 of the Securities Act of 1933, Congress gave to "any person acquiring such security" the right to bring civil suit if the registration statement underlying that security "contained an untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements not misleading."[1] In the near-century that has elapsed since, the markets have undergone extensive evolution. Most relevant to this case are the vast changes to the manner in which stock ownership and transfers are recorded.

As Defendants' expert explains, prior to the creation of the DTC in 1973,

> "the most common way in which an interest in securities, such as shares of common stock of a company, was transferred in the United States was by transferring a paper securities certificate that represented a beneficial ownership in the stock…[which] included the date of issuance of the certificate to the owner, and was evidence that the person whose name was reflected on the certificate as the owners was listed on the company's records…as a security holder, holding rights represented by the certificate."[2]

Under this system, courts could easily determine whether a specific stock certificate was issued pursuant to a specific registration statement.

Following substantial difficulties handling physical stock certificate transfers under increasing trading volumes, DTC was created to "provide a new system of clearance and settlement."[3] Instead of physically transferring stock certificates between individuals, Cede & Co.—DTC's nominee—is the registered owner of the "vast majority of stock and corporate bonds issued in the United States, and nearly all U.S. municipal securities."[4] "Interests in those securities are held by DTC participants[, who] are in turn holding interests in the securities either for themselves or for beneficial owners or intermediaries."[5] DTC currently holds "all securities…that bear the same CUSIP number" in what it calls a "fungible, aggregate bulk."[6]

Defendants' expert aptly contextualizes these details in restating several key facts of the case.[7] Pursuant to a secondary offering, and on the instruction of the lead underwriter of the secondary offering Deutsche Bank Securities ("Deutsche"), shares of AdaptHealth were deposited at DTC on January 8, 2021 where they were held in fungible bulk along with other shares bearing the same CUSIP. *Pro rata* interests in those securities were credited to Deutsche. Deutsche then transferred a portion of those *pro rata* interests to Jefferies LLC, who in turn transferred a *pro rata* interest to Emerald Asset Management ("Emerald"), who held a portion of this interest on behalf of Plaintiffs.

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[1] 15 U.S.C. §77k.
[2] Wiener Report, ¶ 19.
[3] Wiener Report, ¶¶ 20-23 detail the creation of DTC.
[4] Wiener Report, ¶¶ 23-25.
[5] Wiener Report, ¶ 29.
[6] Wiener Report, ¶ 31.
[7] *See* Wiener Report, ¶¶ 59-62.

Thus, while Emerald unquestionably held *pro rata* interests in the fungible bulk on behalf of the Plaintiffs, Defendants insist that the Court should not grant class certification because the Plaintiffs "have never owned a specific share of AdaptHealth Stock at any time during the putative class period."[8] Defendants' expert maintains that, by definition, shares held in fungible bulk are not specifically identifiable. Thus, if courts hold that private right of action under Section 11 requires specific identification, then very few individuals or entities operating in the current market would be entitled to a private right of action under Section 11. The economic implications of this line of argument is to eliminate the right to bring a Section 11 suit for investors in the vast majority of companies because, as Defendants' expert points out, in modern markets, essentially no one owns a "specific share."[9]

B. The Economics of "Fungible Bulk"

In this section, I discuss the economic implications of holding securities in fungible bulk and allocating associated economic rights on a *pro rata* basis. In explaining this allocation, Defendants' expert refers to DTC participants, not as holding securities, but rather as holding "securities entitlements" in the fungible bulk:

> "… I refer herein to [DTC] Participants owning (whether as a nominee or as a beneficial owner) securities in their DTC accounts, but this as a precise technical matter refers to Participants having security entitlements. A "security entitlement" in the intermediated holding system is a bundle of property and contract rights in the contents of a security account that an entitlement holder—a customer of a securities intermediary, such as a Participant of DTC or a beneficial owner holding through such Participant—has with a securities intermediary."[10]

Thus, customers of a securities intermediary (e.g., a broker) hold entitlements to the underlying securities and associated rights held in fungible bulk. As the Defendants' expert discusses at multiple points, once securities are deposited at the DTC and become part of the fungible bulk, the rights associated with those securities are allocated on a *pro rata* basis to all individuals (and entities) who hold an interest in the fungible bulk.[11]

The idea that rights associated with the securities held in fungible bulk are diminished by virtue of those securities being held in fungible bulk—as Defendants contend—is at odds with the notion that rights are assigned on a *pro rata* basis, and contradicts elements of the Wiener Report. If the mere act of holding securities in fungible bulk diminishes the rights associated with those securities (relative to holding physical paper shares) then it is erroneous to claim that rights are assigned on a *pro rata* basis. Rather, Defendants' appear to imply that holding securities in fungible bulk destroys certain rights. This is at odds with the Defendants' expert's contention:

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[8] Defendants' Opposition to Certify Class, p. 71 (emphasis added).

[9] Defendants' expert points out that the vast majority of stock in the United States is now held in fungible bulk with the DTC. Wiener Report ¶¶ 23, 34, 46.

[10] Wiener Report, n. 36 (emphasis added).

[11] Wiener Report, ¶ 32.

"Holding securities in a fungible, aggregate bulk has allowed DTC to hold and (by electronic book-entry) transfer securities on behalf of its Participants in a manner that solved the paperwork crisis discussed above, and that provides the same benefits today."[12]

If the DTC record keeping system and holding securities in fungible bulk limits the private right of action available under Section 11, then it does not provide the same economic benefits as the system it replaced—because a valuable right of private action would be eliminated for some shareholders (those who hold interests in the DTC fungible bulk through DTC participants). In order for the DTC's record keeping system and holdings in fungible bulk to provide the same economic benefits as the previous system, the private right of action under Section 11 must continue to exist.

From an economic perspective, *pro rata* assignment of rights in the fungible bulk can be viewed as actually broadening the set of individuals that are entitled to a private right of action under Section 11. The economic rationale is as follows. Section 11 provides a private right of action to purchasers of a security in a public offering. In economics, such a right has value. Once the securities that provide the private right of action are deposited at the DTC and become part of the fungible bulk, all of the rights associated with those securities are allocated on a *pro rata* basis to all individuals (and entities) who hold an interest in the fungible bulk. Thus, from an economic perspective, *pro rata* allocation of rights broadens the set of individuals with a private right of action to include all individuals who hold an interest in the fungible bulk at the time the shares in question are deposited at the DTC. While this "pro rata" approach to tracing is the most faithful to the underlying economics in current markets, I understand from my work on the amici curiae brief in Exhibit 2 and conversations with Class Counsel that some courts have rejected this line of argument on the grounds that it would broaden standing under Section 11.

Thus, one way to restate the current quandary faced by courts is that the anachronistic view of tracing offered by the Defendants would appear to effectively eliminate the ability to assert the private right of action under Section 11, whereas the pro rata method, while faithful to the underlying economics of current markets, would appear to broaden the ability to assert the private right of action under Section 11. Against this backdrop, my colleagues and I introduced the idea that standard accounting methods—methods that pervade accounting, law, and economics—can be used in conjunction with timestamped account-level transaction records to trace securities ownership in modern markets.[13]

C. A Method for Tracing in Modern Markets

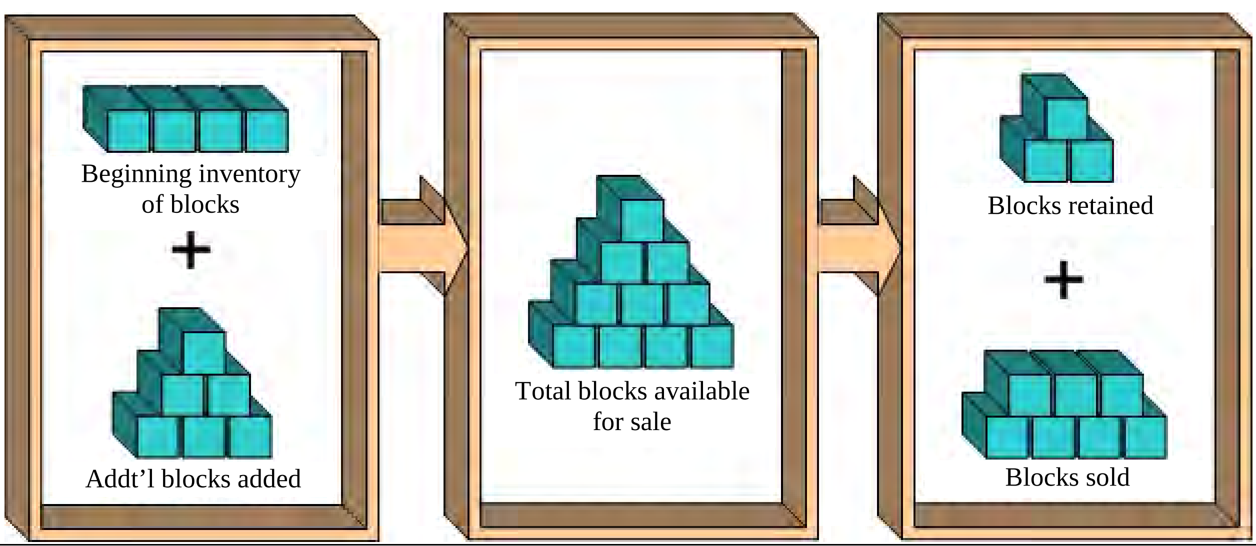
For hundreds of years, accountants have been grappling with the issues presented by comingling multiple identical assets, often acquired at different times. The most straightforward example—from an accounting perspective—is a company's inventory. Rather than simply assume that once placed together in inventory, identical assets become inseparable and are not separately identifiable, accountants have developed age-old methods for specific identification of assets that are commingled in what is effectively "fungible bulk."

[12] Wiener Report, ¶ 39 (emphasis added).
[13] *See* Exhibit 2.

In a literal sense, the wine analogy from the Defendants' expert is inapt in that a specific drop of wine (or property), once blended with the vat, cannot be extricated from the whole. Instead, one might imagine a company with an inventory of identical blocks. Blocks are acquired by the company at different times and at different costs, and commingled in inventory with existing blocks. Some blocks are then taken out of the commingled inventory and sold at different times and at different prices to customers. When a customer buys a block from the company, how will the company trace the block back through the commingled inventory in order to determine the block's cost and calculate profit? To address this tracing issue, accountants have developed first-in first-out (FIFO) and last-in first-out (LIFO) accounting methods. In the Section below, I explain the conceptual underpinnings of these methods, and how these methods can be used to trace securities ownership in modern markets.

Figure 1 illustrates the basic concepts of FIFO and LIFO using a simple example. On Day 1, the company has four blocks in inventory. The blocks are identical. On Day 2, the company acquires six additional, identical blocks. The company now has ten identical blocks available to be sold. Day 3 the company sells seven blocks. Which of the blocks were sold? How many blocks from Day 1 were sold? How many from Day 2? This problem is ubiquitous in modern markets. Not only does it arise in physical inventory management—literally which blocks are sold—but also in cost allocation. For example, if Day 1 blocks were acquired at $1, and Day 2 blocks acquired at $2, and blocks were sold on Day 3 for $3, how should the profit from the sale of the blocks be calculated? Based on Day 1 cost? Day 2? FIFO first allocates the cost of the older blocks to the seven blocks that were sold (four blocks at $1, three blocks at $2). LIFO first allocates the cost of the newer blocks to the seven blocks that were sold (one block at $1, six blocks at $2,).

Figure 1. Illustration of Tracing Using FIFO and LIFO



FIFO and LIFO are not theoretical methods of tracing. These methods are routinely employed by broker-dealers to trace the shares being sold for the purposes of computing capital gains from the sale of stock. For example, suppose 50 shares of stock are bought on Day 1 at $1,

another 50 shares of the same stock are bought at $2 on Day 2, and 75 shares are sold on Day 3 for $3. What are the capital gains from the sale? The answer depends on how the broker traced the shares when calculating the cost basis. Many of the major brokers (e.g., Fidelity, Vanguard, Schwab) use the FIFO method as the default method for tracing the cost of the shares.[14]

Similar to these examples, it is possible to use FIFO and LIFO methods to trace the ownership of securities from one account to another, and in turn, all the way back to the issuer. Broker-dealers, exchanges and Financial Industry Regulatory Authority ("FINRA") are required by law to maintain detailed, timestamped transactional records which can be obtained through subpoenas in discovery.[15] These records show exactly when securities in one account are transferred to another account, whether within the same broker-dealer or between different broker-dealers. In modern markets, all these records are aggregated in the form of an Electronic Blue Sheet datafiles maintained by FINRA and also aggregated in a central repository known as the Consolidated Audit Trail (CAT) maintained by the SEC, such that there is no need for plaintiffs to subpoena individual broker dealers.[16]

While tracing ownership using FIFO and LIFO methods may be computationally intensive given the amount of records that would need to be processed, it is conceptually straightforward. Consider an example similar to that provided in the amici curiae brief in Exhibit 2. Suppose Entity A purchases 100 shares on Monday and 100 shares on Tuesday. On Wednesday at 10:00:01.578913971 (i.e., 10:00am, 1 second and 578913971 nanoseconds), Entity A sells 100 shares to Entity B. On Wednesday at 10:00:01.593210046 (i.e., 10:00am, 1 second and 593210046 nanoseconds), Entity A sells 100 shares to Entity C. Applying the FIFO accounting method leads to the conclusion that B received the 100 shares that A acquired on Monday, and C received the 100 shares that A acquired on Tuesday.

As the preceding examples illustrate, the application of an accounting method yields a single conclusion regarding who owns a security at each point in time.[17] Moreover, these methods are widely accepted in various areas of law.[18] As such, FIFO and LIFO methods are particularly well-suited for tracing share ownership in modern markets.

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[14] See https://www.fidelity.com/tax-information/tax-topics/capital-gains-cost-basis; https://investor.vanguard.com/investor-resources-education/taxes/cost-basis-first-in-first-out; https://www.schwab.com/learn/story/save-on-taxes-know-your-cost-basis

[15] See, e.g., 17 CFR § 240.17a-3(a)(6) (requiring broker-dealers to maintain detailed records on individual orders including "the time the order was received, the time of entry, the price at which executed, the identity of each associated person, if any, responsible for the account . . . and, to the extent feasible, the time of execution or cancellation").

[16] Information in the CAT, which includes customer identifying information, is discoverable. See Joint Industry Plan; Order Approving the National Market System Plan Governing the Consolidated Audit Trail, Rel. No. 34-79318, Nov. 15, 2016, https:// www.sec.gov/rules/sro/nms/2016/34-79318.pdf ("[T]he CAT NMS Plan provides that the confidentiality provision does not restrict disclosures required by: . . . an order, subpoena or legal process;"). Similar records are also collected by FINRA in a form known as the Electronic Blue Sheets, which are also subject to subpoena

[17] Accounting methods like FIFO and LIFO do not amount to "statistical tracing" nor do they involve probabilistic reasoning. Under a FIFO or LIFO assumption, and well documented transaction records, the chain of ownership can be traced with certainty.

[18] See Exhibit 2 pp 11-14 for additional examples of acceptance in other areas of law.

III. Conclusion

The technological infrastructure associated with securities transfers has evolved considerably since Section 11 of the Securities Act of 1933 was conceived by Congress. In modern markets, the DTC holds securities that bear the same CUSIP in what it calls a “fungible, aggregate bulk.” Because of these changes in market infrastructure, courts have struggled with questions related to the feasibility of share tracing under Section 11 and associated economic implications.

In a recently co-authored amici curiae brief, colleagues and I contend that application of FIFO and LIFO accounting methods combined with timestamped account-level transaction records available from FINRA and the SEC can be used to conduct share tracing in modern markets. This approach thus offers a solution to courts on issues related to share tracing.

Respectfully submitted,

Daniel Taylor

Exhibit 1. Current CV

Daniel J. Taylor

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EDUCATION

Stanford University
Ph.D. Business, 2010

Duke University
M.A. Economics, 2005

University of Delaware
B.S. Economics, 2003
Minor: Information Systems; Cum Laude

ACADEMIC POSITIONS

The Wharton School of the University of Pennsylvania

Professor 2022 – present
- Arthur Andersen Chair, 2020 – present
- Founder & Director, Wharton Forensic Analytics Lab, 2021 – present
- Wharton Teaching Excellence Award, 2019, 2020, 2021
- Analytics @Wharton Teaching Grant, 2020, 2021
- Analytics @Wharton Fellow, 2020 – present
- Wharton Faculty Fellow, 2019

Associate Professor 2017 – 2022
Assistant Professor 2011 – 2017
Lecturer 2010 – 2011

RESEARCH INTERESTS

insider trading, financial misreporting, corporate disclosure, methodology

ACADEMIC PUBLICATIONS

INSIDER TRADING

Holding Foreign Insiders Accountable

(with R. Jackson and B. Lynch) working paper

Press: *Financial Times* (Nov 2021); *Wall Street Journal* (Apr 2022); *Bloomberg Money Stuff* (Apr 2022); *Harvard Law School Forum on Corporate Governance* (Jun 2022)

Policy: co-authored companion policy brief; Congressional testimony before the Senate Banking Committee (Apr 2022); Sen. Kennedy introduced the "Holding Foreign Insiders Accountable Act" in May 2022.

Dark Side of Investor Conferences: Evidence of Managerial Opportunism

(with B. Bushee and C. Zhu) The Accounting Review, forthcoming

Press: *Columbia Law School Blue Sky Blog* (Jan 2021); *Bloomberg Money Stuff* (Jan 2021)

Audit Process, Private Information, and Insider Trading

(with S. Arif, J. Kepler, and J. Schroeder) Review of Accounting Studies, September 2022

Press: *Harvard Law School Forum on Corporate Governance* (Nov 2018); *Marketwatch* (Mar 2019); *Marketwatch* (Jun 2019)

Prize: *Best Academic Paper Award,* Weinberg Corporate Governance Symposium (2019)

Undisclosed SEC Investigations

(with T. Blackburne, J. Kepler, and P. Quinn) Management Science, June 2021

Press: *Columbia Law School Blue Sky Blog* (Feb 2020); *Bloomberg Money Stuff* (Feb 2020), *Securities Regulation Daily* (Feb 2020); *Corporate Counsel* (Mar 2020); *Wall Street Journal* (Sep 2021)

Prize: *Outstanding Research Paper Award*, Jacobs Levy Center for Quantitative Financial Research (2020)

Policy: Cited in the SEC's final ruling on exemptions to 404(b) of SOX "Amendments to the Accelerated Filer and Large Accelerated Filer Definitions" *SEC Release No. 34–88365*

Gaming the System: Three Red Flags of Potential 10B5-1 Abuse

(with D. Larcker, B. Lynch, P. Quinn, and B. Tayan) Stanford Closer Look Series, Jan 2021: 1-17. Stanford University Press.

Press: *Harvard Law School Forum on Corporate Governance* (Jan 2021); *Cooley PubCo* (Feb 2021); *Reuters* (Jun 2021, Dec 2021); *Bloomberg* (Jun 2021, Dec 2021); *Bloomberg Money Stuff* (Jun 2021, Sep 2021); *Financial Times* (Jun 2021, Jul 2021, Dec 2021);

Law360 (Jun 2021 x4; Jul 2021); *Wall Street Journal* (Jun 2021, Aug 2021, Dec 2021 x2); *Forbes* (Aug 2021);

Policy: cited extensively in SEC's Proposed Changes to Rule 10B5-1 "Rule 10B5-1 and Insider Trading" *SEC Release No. 34*-93782; presented to the SEC's Investor Advisory Committee (Jun 2021); cited in speeches by Chair Gensler at WSJ-CFO Summit (Jun 2021) and SEC Commissioner Allison Herren Lee (Dec 2021); cited in comment letters to the SEC by the AFL-CIO (Apr 2022), Council of Institutional Investors (Apr 2022), and New York City Employee Retirement System (Apr 2022); cited in New York City Comptroller's proxy challenge to Abbott Labs and McKesson on 10b5-1 plans, supported by ISS and GlassLewis with 49% of the vote;

Political Connections and the Informativeness of Insider Trades

(with A. Jagolinzer, D. Larcker, and G. Ormazabal) Journal of Finance, August 2020

Press: *Harvard Law School Forum on Corporate Governance* (Sep 2016); *The Economist* (Feb 2018); *CNBC* (Feb 2018); *Bloomberg Law* (Mar 2020); *Bloomberg Money Stuff* (Mar 2020), *DailyMail* (Mar 2020); *Fox Business* (Mar 2020); *Law.com* (Mar 2020); *Reuters* (Mar 2020, Apr 2020); *Securities Docket* (Mar 2020); *Yahoo Finance* (Mar 2020); *Yahoo News* (Mar 2020); *The Week* (Mar 2020); *US News and World Report* (Mar 2020, Apr 2020), *New York Times* (Apr 2020)

Prize: *Outstanding Research Paper Award*, Jacobs Levy Center for Quantitative Financial Research (2019). Almetrics media influence score in the top 5% of all academic research, ranked in top 0.5% within Journal of Finance.

Policy: Synopsis printed in *CATO Institute Research Briefs in Economic Policy* (Jan 2018)

Governance of Corporate Insiders' Equity Trades

(with D. Larcker, J.Kepler, and B. Tayan) in Stanford Closer Look Series, Jan 2020: 1-5. Stanford University Press.

Press: *Harvard Law School Forum on Corporate Governance* (Jan 2020)

Corporate Governance and the Information Content of Insider Trades

(with A. Jagolinzer and D. Larcker) Journal of Accounting Research, Dec 2011

Press: *Harvard Law School Forum on Corporate Governance* (Oct 2011); *Marketwatch* (Mar 2019);

Financial Misreporting

The Economics of Misreporting and the Role of Public Scrutiny

(with D. Samuels and R. Verrecchia) Journal of Accounting and Economics, February 2021

Press: *CFO* (May 2018); *Barron's* (Jun 2018)

Abnormal Accruals in Newly Public Companies: Misreporting or Economic Activity?
(with C. Armstrong and G. Foster) Management Science, May 2016

The Relation Between Equity Incentives and Misreporting: The Role of Risk-Taking Incentives
(with C. Armstrong, D. Larcker, and G. Ormazabal) Journal of Financial Economics, Aug 2013

Press: *Wall Street Journal* (May 2013); *Harvard Law School Forum on Corporate Governance* (May 2013)

Policy: featured in keynote address by PCAOB Chair James Doty at the AICPA National Conference on Current SEC and PCAOB Developments (Dec 2012)

Why Do Pro Forma and Street Earnings Not Reflect Changes in GAAP?
(with M. Barth and I. Gow) Review of Accounting Studies, Sep 2012

Press: *Harvard Law School Forum on Corporate Governance* (Nov 2010); *Wall Street Journal* (May 2015)

In Defense of Fair Value: Weighing the Evidence on Earnings Management and Securitizations
(with M. Barth) Journal of Accounting and Economics, Feb 2010

Disclosure and Stock Prices

The Information Content of Corporate Websites
(with B. Lynch) working paper

Prize: 2021 NBER Big Data and Securities Markets Conference

Disclosure Substitution
(with M. Heinle and D. Samuels) Management Science, forthcoming

Voluntary Disclosure when Private Information and Disclosure Costs are Jointly Determined
(with J.M. Kim and R. Verrecchia) Review of Accounting Studies, June 2021

The Spread of Covid-19 Disclosures
(with D. Larcker, B. Lynch, and B. Tayan) in Stanford Closer Look Series, June 2020: 1-5. Stanford University Press.

Press: *Bloomberg Money Stuff* (Jun 2020); *Cooley PubCo* (June 2020); *Harvard Law School Forum on Corporate Governance* (Jul 2020); included in NIRI's *Covid-19 Crisis Response Library* (Jul 2020)

Policy: staff briefing to House Financial Services Committee (Jul 2020); presented to the SEC's Investor Advisory Committee (Dec 2020); presentation covered by *Law360* (Dec 2020)

Linguistic Complexity in Firm Disclosures: Obfuscation or Information

(with B. Bushee and I. Gow) Journal of Accounting Research, March 2018

Press: synopsis printed in *CFA Digest* (Dec 2018)

Prize: Top 5 most highly-cited papers published in the journal since 2018

Other: Perl command to calculate Fog Index, *Lingua:EN:Fathom*, was revised as a result of the computational errors identified in this paper (see v1.22 of command)

JOBS Act and Information Uncertainty in IPO Firms

(with M. Barth and W. Landsman) The Accounting Review, Nov 2017

Press: *Harvard Law School Forum on Corporate Governance* (Aug 2014); *CFO* (Oct 2017); *CPA Practice Advisor* (Oct 2017); *MarketWatch* (Oct 2017); *The Intercept* (Feb 2018); *Xconomy* (Apr 2019); *Accounting Today* (Aug 2020) *CPA Practice Advisor* (2020)

Prize: *Notable Contribution to Accounting Literature Award*, AICPA (2020), Almetrics media influence score in the top 25% of all academic research, ranked in top 10% within The Accounting Review.

Policy: cited in speeches by SEC Commissioner Kara Stein (Dec 2016, Jun 2018); cited in the SEC's final ruling on amendments to Regulation A of the Securities Act, "Amendments for Small and Additional Issues Exemptions Under the Securities Act" *SEC Release Nos. 33–9741, 34–74578, 39–2501*

Guiding Through the Fog: Financial Statement Complexity and Voluntary Disclosure

(with W. Guay and D. Samuels) Journal of Accounting and Economics, Nov 2016

Press: *Columbia Law School Blue Sky Blog* (Mar 2015)

Prize: Top 5 most highly-cited papers published in the journal since 2016

Delegated Trade and the Pricing of Public and Private Information

(with R. Verrecchia) Journal of Accounting and Economics, Dec 2015

Follow the Money: Compensation, Risk, and the Financial Crisis

(with D. Larcker, G. Ormazabal, and B. Tayan) in Stanford Closer Look Series, Sept 2014: 1-5. Stanford University Press.

Asset Securitizations and Credit Risk

(with M. Barth and G. Ormazabal) The Accounting Review, Mar 2012

Frictions in the CEO Labor Market: The Role of Talent Agents in CEO Compensation

(with S. Rajgopal and M. Venkatachalam) Contemporary Accounting Research, Spring 2012

The Market Reaction to Corporate Governance Regulation

(with D. Larcker and G. Ormazabal) Journal of Financial Economics, Aug 2011

Press: *Wall Street Journal* (Jul 2010); *New York Times* (Nov 2010); *Harvard Law School Forum on Corporate Governance* (Sep 2010); *CFA Institute* (Aug 2014); synopses printed in *CFA Digest* (Aug 2011)

Policy: cited in the SEC's final ruling on proxy access (SEC Rules 14a-8 and 14a-11) "Facilitating Shareholder Director Nominations" *SEC Release No. 33-9136*

When Does Information Asymmetry Affect the Cost of Capital?
(with C. Armstrong, J. Core, and R. Verrecchia) Journal of Accounting Research, Mar 2011

Policy: cited in the SEC's proposed rule regarding mandatory clawbacks "Listing Standards for Recovery of Erroneously Awarded Compensation" *SEC Release Nos. 33-9861, 34-75342*; cited in the SEC's proposed exemptions to Section 404(b) of SOX "Amendments to the Accelerated Filer and Large Accelerated Filer Definitions" *SEC Release No. 34–85814*

Post-Earnings Announcement Drift and Related Anomalies
in Handbook of Equity Market Anomalies (2011): 91-115. Wiley Publishing. Ed. Len Zacks.

The Stock Market's Pricing of Customer Satisfaction
(with C. Ittner and D. Larcker) Marketing Science, Oct 2009

METHODOLOGY

Measurement Error, Fixed Effects, and False Positives in Accounting Research
(with J. Jennings, J.M. Kim, and J. Lee) *Review of Accounting Studies*, forthcoming

Causality Redux: The Evolution of Empirical Methods in Accounting Research
(with C. Armstrong, J. Kepler, and D. Samuels) Journal of Accounting and Economics, forthcoming

Economics of Managerial Taxes and Corporate Risk-Taking
(with C. Armstrong, S. Glaeser, and S. Huang) The Accounting Review, January 2019

Press: Featured in *Columbia Law School Blue Sky Blog* (Dec 2017)

Thoughts on the Divide Between Theoretical and Empirical Research in Accounting
(with Q. Chen, J. Gerakos, and V. Glode) Journal of Financial Reporting, Fall 2016

From Casual to Causal Inference in Accounting Research: The Need for Theoretical Foundations
(with J. Bertomeu and A. Beyer) Foundations and Trends in Accounting, Fall 2016

Correcting for Cross-Sectional and Time-Series Dependence in Accounting Research
(with I. Gow and G. Ormazabal) The Accounting Review, Mar 2010

Prize: Top 5 most highly-cited paper published in the journal since 2010

OP-EDS, COURT BRIEFS, AND REGULATORY COMMENT LETTERS

Amicus Curiae in Support of Claims that Modern Technology Enables Share Tracing (co-authored with 15 other academic co-authors) Supreme Court of the United States, No. 22-200, Mar 2023.

Comment Letter on the SEC's Proposal on Climate-Related Disclosures, June 2022

Amicus Curiae in Support of Claims that Engineered Short Squeezes are a Form of Market Manipulation (co-authored with 6 other academic co-authors) US Court of Appeals, Tenth Circuit, Case 21-4126, Feb 2022.

Comment Letter on the SEC's Proposal on Climate-Related Disclosures, June 2022

Amicus Curiae in Support of Claims that Engineered Short Squeezes are a Form of Market Manipulation (co-authored with 6 other academic co-authors) US Court of Appeals, Tenth Circuit, Case 21-4126, Feb 2022.

Amicus Curiae in Support of Claims that SPACs are Not Valued as Operating Companies
(lead co-author with 30 other academic co-authors) US District Court for the Southern District of New York, Case 1:21-cv-07072-JPO, Nov 2021.

Policy: Parties settled, over $4 billion returned to investors, no lawyer fees, SEC revised rules covering SPACs

Amicus Curiae in Support of Claims that 10B5-1 Trading Plans Can Be Probative of Scienter
(lead co-author with Joshua Mitts, with 7 other academic co-authors) US Court of Appeals for the 10th Circuit, Case 21-4058, Sept 2021.

Policy: Appeals court ruled that the lower court erred in dismissing the possibility that 10B5-1 trades could be probative of scienter

OpEd: Insider Trading Loopholes Need to be Closed
(with SEC Commissioner Caroline Crenshaw) Bloomberg, Mar 2021

Comment Letter on the SEC's Proposed Rule 144 Holding Period and Form 144 Filings
(with David Larcker and Bradford Lynch), Mar 2021

Press: *Harvard Law School Forum on Corporate Governance* (Mar 2021)

Policy: cited in the SEC's Final Rule "EDGAR Filing Requirements and Form 144 Filings" *SEC Release No. 33-11070*; cited in the SEC's Proposed Rule Changes on Rule 10B5-1 "Rule 10B5-1 and Insider Trading" *SEC Release No. 34-93782*;

Other: The evidence and discussion offered in this comment letter is the reason why Form 144 exists on EDGAR, and is required to be filed electronically. The data analyzed in this comment letter is also featured in the papers Holding Foreign Insiders Accountable and Gaming the System: Three Red Flags of Potential 10B5-1 Abuse

OpEd: How the SEC Can and Should Fix Insider Trading Rules
(with A. Jagolinzer and D. Larcker) The Hill, Dec 2020

Policy: policy recommendations adopted by Sens. Brown, Van Hollen, and Warren in their Feb 10, 2021 letter to the SEC; cited in the SEC's Proposed Rule Changes on Rule 10B5-1 "Rule 10B5-1 and Insider Trading" *SEC Release No. 34-93782*

Comment Letter on the SEC's Proposed Reporting Threshold for Institutional Investment Managers
(with M. Barth, T. Dyer, and W. Landsman), Sep 2020

Press: *IR Magazine* (Sept 2020); *Harvard Law School Forum on Corporate Governance* (Oct 2020)

Policy: Council of Institutional Investor's Comment Letter to the SEC (Oct 2020)

Comment Letter on the SEC's Proposed Exemption to Internal Control Audits under SOX 404(b)
(with M. Barth, W. Landsman, and J. Schroeder), Jul 2019

Press: *Wall Street Journal* (Jul 2019, Aug 2019, Mar 2020); *Harvard Law School Forum on Corporate Governance* (Jul 2019); *Corporate Secretary* (Aug 2019); *Internal Audit 360* (Aug 2019)

Policy: cited in the SEC's final ruling on exemptions to 404(b) of SOX "Amendments to the Accelerated Filer and Large Accelerated Filer Definitions" *SEC Release No. 34–88365*. cited in speech by SEC Commissioner Allison Herren Lee (Mar 2020); comments letters to the SEC by Council of Institutional Investors (Feb 2020), Better Markets (Feb 2020), and CFA Institute (Feb 2020)

CONFERENCE DISCUSSIONS AND PANELS

"Causality Redux" *2021 Journal of Accounting and Economics Conference*

"Research on Forensic Finance and Accounting" *2021 UT Symposium on Financial Market Policy Development & Research*

"How policy-makers use academic research on disclosure and governance," *2020 UT Symposium on Financial Market Policy Development & Research*

"Theory and Inference in Accounting Research," *2019 Stanford Theory & Inference Conference*

"Surviving and Thriving in the Profession," *2019, 2020, 2021 AAA Doctoral Consortium*

"Change in Capitol: How a 60 Minutes Expose and the STOCK Act Affected the Investment Activity of U.S. Senators," *2017 FEA Conference*

"When and Why do IPO Firms Manage Earnings," *2017 Review of Accounting Studies Conference*

- Winner, Morgan-Stanley Best Discussant Prize

"Pre-IPO Communication and Analyst Research: Evidence Surrounding the JOBS Act," *2017 NYU/SEC Changing Role of Stock Markets in Capital Formation*

"Increased Creditor Rights, Institutional Investors, and Corporate Myopia," *2016 Harvard IMO Conference*

"Payoffs to Aggressiveness," *2015 AAA Annual Meeting*

"The Unification of Theory and Empirical Research and the Path toward Knowledge," *2015 Junior Accounting Theory Conference*

"Corporate Governance and Securitization Quality: The Impact of Shareholder Rights in the Banking Industry," *2014 AAA Annual Meeting*

"Earnings Co-Movement and Earnings Manipulation in Different Economic States," *2014 FARS Mid-year Conference*

"Managerial Incentives to Increase Firm Volatility Provided by Debt, Stock, and Options," *2013 Washington University St. Louis Nick Dopuch Conference*

"The Association Between Audit Committee Characteristics and Information Asymmetry," *2013 AAA Annual Meeting*

"Accounting Experts, Information Cost, and Implied Cost of Equity Capital," *2013 AAA Annual Meeting*

"Management Team Incentive Alignment and Firm Value," *2013 FARS Mid-year Conference*

INVITED PRESENTATIONS

2023: UT-Austin; Harvard IMO; Bocconi-Lake Como Conference; Zurich Theory Conference

2022: UT-Austin Law; Yale; Stanford; Harvard Law; DoJ Fraud Unit

2021: SEC Investor Advisory Committee; UT Symposium on Financial Market Policy Development & Research; Michigan State; Chinese Univ of Hong Kong; University of Maryland; SEC Enforcement; DoJ MIMF Unit; Northwestern; Minnesota; Baruch; Tilburg; UT-Dallas; SEC Division of Economic and Risk Analysis; Journal of Accounting and Economics Conference; Florida State; Review of Accounting Studies Conference; SEC Chair's Office

2020: SEC Commission-wide seminar; Accounting Theory Group; Univ of Miami; staff of House Financial Services Committee; UT Symposium on Financial Market Policy Development & Research; NYU; Georgia; SEC Investor Advisory Committee; Iowa; Review of Accounting Studies Conference

2019: Stanford; Michigan; PCAOB; SEC Commissioner's Office (x2); Washington Univ; Weinberg Corporate Governance Symposium; Florida; Carnegie-Mellon; Miami; Stanford Theory and Inference; Notre Dame Conference; Columbia; Indiana; Hawaii

2018: MIT; Toronto

2017: UC-Davis; Minnesota Spring Conference; NYU/SEC Changing Role of Stock Markets in Capital Formation; Review of Accounting Studies conference; FEA conference

2016: Temple; Utah; Chicago; Cornell; Harvard IMO Conference; Securities & Exchange Commission; Texas A&M; Treasury; Southern District of New York; FBI

2015: Rochester; AAA Mid-Atlantic Doctoral Consortium; Delaware; Penn State Accounting Research Conference; Colorado Summer Camp; Junior Accounting Theory Conference; AAA Annual Meeting

2014: FARS Mid-year Meeting; University of Texas Corporate Governance conference; Junior Accounting Theory Conference; AAA Annual Meeting; Stanford Summer Camp; USC; SUNY-Binghamton; Northwestern

2013: FARS Mid-year Meeting; Duke; AAA Annual Meeting; Duke/UNC Fall Camp; LBS; Washington University St. Louis Nick Dopuch Conference

INVITED CONFERENCES

2023: JAR (invited participant); Harvard IMO conference (presenter); Bocconi-Lake Como Conference; Zurich Theory Conference; Stanford Summer Camp (invited participant)

2021: UT Symposium on Financial Market Policy Development & Research (panelist); JAE conference (presenter); RAST conference (invited participant)

2020: UT Symposium on Financial Market Policy Development & Research (panelist); Stanford Virtual Summer Camp (invited participant); JAR conference (invited participant); NYU Institute for Corporate Governance (invited participant); JAE conference (invited participant); RAST conference (presenter)

2019: Weinberg Corporate Governance Symposium (presenter); Theory and Inference in Accounting Research (moderator); Notre Dame Accounting Conference (presenter); Miami Winter Warm-Up Conference (invited participant)

2018: JAR conference (invited participant); NYU Summer Camp (invited participant); Harvard IMO conference (invited participant); Wharton Spring Conference (invited participant); Harvard IMO conference (invited participant); NYU Summer Camp (invited participant); Stanford Summer Camp (invited participant); Junior Accounting Theory Conference (invited participant); Toronto Summer Camp (presenter); JAR/PCAOB conference (invited participant); JAE conference (invited participant)

2017: Minnesota Empirical Conference (presenter); NYU/SEC Changing Role of Stock Markets in Capital Formation (discussant); JAR conference (invited participant); Wharton Spring Conference (invited participant); Review of Accounting Studies conference (discussant); JAR/PCAOB conference (invited participant); JAE conference (invited participant); FEA conference (discussant);

2016: JAR conference (invited participant); Harvard IMO conference (discussant); Wharton Spring Conference (invited participant); Colorado Summer Camp (invited participant); Stanford Summer Camp (invited participant); RAST conference (invited participant); JAR/PCAOB conference (invited participant); JAE conference (invited participant);

2015: AAA Mid-Atlantic Doctoral Consortium (presenter); Penn State Accounting Research Conference (presenter); JAR conference (invited participant); Colorado Summer Camp (presenter); Junior Accounting Theory Conference (moderator); AAA Annual Meeting (discussant); JAE conference (presenter); JAR/PCAOB conference (invited participant); Washington University Nick Dopuch Conference (invited participant);

2014: FARS Mid-year Meeting (presenter, discussant); University of Texas Corporate Governance conference (presenter); JAR conference (invited participant); Junior Accounting Theory Conference (presenter); AAA Annual Meeting (discussant); Stanford Summer Camp (presenter); JAE conference (presenter); Causality Conference (invited participant)

2013: FARS Mid-year Meeting (discussant); JAE/HBS Social Responsibility conference (invited participant); Colorado Summer Camp (invited participant); Stanford Summer Camp (invited participant); UNC Global Issues in Accounting conference (invited participant); NYU-Stern Summer Camp (invited participant); AAA Annual Meeting (discussant); Duke/UNC Fall Camp (presenter); Washington University Nick Dopuch Conference (discussant); JAE conference (invited participant)

Internal and External Service

Editorial Positions

Management Science	*Associate Editor*	2018 – present
The Accounting Review	*Editor*	2018 – 2022
The Accounting Review	*Editorial Board*	2017 – present
Review of Accounting Studies	*Editorial Board*	2018 – present
SSRN Accounting Theory eJournal	*Editorial Board*	2018 – present
Journal of Financial Reporting	*Editorial Board*	2016 – present
Journal of Accounting and Economics	*Editorial Board*	2015 – present
Journal of Accounting Research	*Editorial Board*	2016 – 2021
	Reviewer of the Year	2019

Dissertation Committees & Placements

Bradford Lynch	(on the market, 2022-2023)	2023
Jung Min Kim	(Northwestern)	2022
John Kepler	(Stanford)	2019
Delphine Samuels	(MIT)	2017
Michael Carniol	(Rutgers)	2017
Jason Xiao	(University of Rochester)	2016
David Tsui	(USC)	2015
Terrence Blackburne	(University of Washington)	2013

Professional Service

Member, WRDS Advisory Board,	2020 – present
Member, Wharton IT Steering Committee	2017 – present
Member, Wharton Rookie Recruiting Committee	2015 – present
Member, Wharton PhD Qualifying Exam Committee	2012 – present
Member, Wharton Curriculum Innovation & Review Committee	2020 – 2021
Leader, AAA/Deloitte Doctoral Consortium	2019 – 2021
Organizer & Founder, Wharton Theory Boot Camp for Empiricists	2018 – 2020
Leader, AAA New Faculty Consortium	2019
Member, FARS Meeting Editorial Committee	2017
Member, FARS Best Dissertation Award Committee	2016
Member, Wharton PhD Curriculum Committee	2016

COURSE DEVELOPMENT

EVALUATING EVIDENCE (Fall 2022 – present)

This course teaches undergraduate students basic logic, critical thinking, and research designs skills that will enable them to evaluate evidence generally. The course will apply these concepts to evaluate popular claims on pressing business and societal questions. The course will not teach the answers to these questions, but rather how one could find answers to these questions through experimentation and data analysis.

FORENSIC ANALYTICS (Spring 2019 – present)

Created this experiential course for undergraduates interested in learning how to manipulate Big Data and mine SEC filings to predict earnings, detect fraud, and flag suspicious trading behavior. The course draws on cutting-edge academic research in each topic; features industry guest speakers; introduces basic SQL coding skills; and leverages the computing power of AWS and the datasets at Wharton Research Data Services.

EMPIRICAL DESIGN IN ACCOUNTING RESEARCH (Spring 2014 – present)

Created this course for Ph.D. students looking for an advanced course on empirical methodology and research design with application to the accounting literature. The course emphasizes applied econometrics and research design rather than topical coverage of the literature [mini-versions taught at Northwestern, Stanford, and Washington University].

INTRODUCTION TO FINANCIAL ACCOUNTING (Fall 2010 – Fall 2017)

Designed a custom course pack for ~800 students.

ADDITIONAL INFORMATION

Citizenship: United States
Hobbies/Other: hiking, home renovations, landscaping, Eagle Scout

Exhibit 2. Amici Curiae Brief in
Slack Technologies v. *Pirani*

No. 22-200

IN THE

Supreme Court of the United States

SLACK TECHNOLOGIES, LLC, FKA SLACK TECHNOLOGIES, INC., *et al.*,

Petitioners,

v.

FIYYAZ PIRANI,

Respondent.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

BRIEF FOR *AMICI CURIAE* LAW AND BUSINESS PROFESSORS IN SUPPORT OF RESPONDENT

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INTEREST OF AMICI CURIAE[1]

Amici are law and business professors who focus their teaching and scholarship on federal securities law, the financial markets and accounting. They submit this brief to clarify the contours of the modern securities market for the Court's benefit, and explain how modern computing power and well established and accepted accounting methodologies make it feasible to trace shares, using the detailed, time-stamped transactional records that broker-dealers, exchanges, and the Financial Industry Regulatory Authority ("FINRA") are required to maintain and which are obtainable through subpoenas in discovery. Amici also submit to explain how Petitioners' position would effectively bar investors from tracing their shares, not only in direct listings but in all contexts that Congress intended for Section 11 to apply, thereby resulting in a significant loss of investor protection. Amici are:

William W. Clayton is a Francis R. Kirkham Associate Professor of Law at BYU Law School.

James D. Cox is the Brainerd Currie Professor of Law at Duke Law School.

Wendy Gerwick Couture is the James E. Wilson Distinguished Professor of Law at the University of Idaho College of Law.

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1. No party or counsel for a party—nor any person other than amici and their counsel—authored this brief in whole or in part or contributed any money intended to fund its preparation or submission.

Merritt B. Fox is the Arthur Levitt Professor of Law at Columbia University Law School.

Jeffrey Gordon is Richard Paul Richman Professor of Law and co-director of the Ira M. Millstein Center for Global Markets and Corporate Ownership at Columbia University Law School.

Thomas Lee Hazen is the Cary C. Boshamer Distinguished Professor of Law at the University of North Carolina School of Law.

Michael J. Kaufman is Dean and Professor of Law at Santa Clara University School of Law

Donald Langevoort is the Thomas Aquinas Reynolds Professor at Georgetown University Law Center.

James Park is a Professor of Law at UCLA School of Law.

Hillary Sale is the Associate Dean for Strategy and the Agnes Williams Sesquicentennial Professor of Leadership and Corporate Governance at Georgetown Law Center, and a Professor of Management at Georgetown University's McDonough School of Business.

Joel Seligman is President Emeritus at the University of Rochester and Dean Emeritus and Professor at Washington University School of Law.

Marc Steinberg is the Radford Professor of Law at SMU Dedman School of Law.

Daniel J. Taylor is the Arthur Andersen Chaired Professor at The Wharton School, and Director of the Wharton Forensic Analytics Lab.

David H. Webber is a Professor of Law and Paul M. Siskind Research Scholar at Boston University School of Law.

Charles K. Whitehead is the Myron C. Taylor Alumni Professor of Business Law at Cornell Law School.

Arthur E. Wilmarth, Jr. is a Professor Emeritus of Law at The George Washington University School of Law.

SUMMARY OF ARGUMENT

We submit this amicus brief because we are concerned that this Court may be influenced by a myth: namely, that it is impossible to "trace" shares for purposes of establishing standing under Section 11 of the Securities Act of 1933. Although many courts and practitioners may have sincerely believed that this barrier was insurmountable, their belief was at best "folk wisdom." Even if it was reasonable once upon a time, this "impossibility myth" is now demonstrably false, as modern computing power makes it feasible to trace shares, using the detailed, time-stamped transactional records that broker-dealers, exchanges, and the Financial Industry Regulatory Authority ("FINRA") are required to maintain (and are subject to subpoena in discovery).[2]

2. Looking to the future, we also believe that distributed ledger technology—an emerging technology which produces an immutable record of transactions—should make it even simpler

Worse yet, the tracing requirement can be (and apparently is being) manipulated by companies, at the advice of skilled practitioners, to deliberately commingle registered and unregistered securities seeking to block tracing and thereby nullify Section 11. This should be unacceptable. If permitted, this tactic could bar Section 11 actions in both the initial public offering and seasoned offering contexts, thereby effectively precluding Section 11 litigation across the board.

Nonetheless, we do not challenge the legitimacy of the tracing requirement and believe that Judge Henry Friendly was correct in *Barnes v. Osofsky*[3] in holding that Section 11 should apply only to the shares registered under the registration statement. In effect, we agree with Judge Friendly, but believe his approach needs to be updated in light of technological progress that can make tracing feasible and cost-efficient.

Nor do we argue that a statistical estimate of the likelihood that shares sold by plaintiffs were registered is an adequate substitute for proving actual tracing. Rather, we much more modestly assert that, as Petitioner's own

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to trace shares at low cost, thus making the "impossibility myth" even more dated and archaic.

3. 373 F.2d 269 (2d Cir. 1967) (finding that the term "such security" in Section 11(a) of the Securities Act of 1933 meant securities registered under the statute and not all shares trading in the market). Judge Friendly's analysis had the impact of reducing the damages potentially available under Section 11, which otherwise might have been very high in some cases. Of course, standing is also available to those who purchased directly in the offering. *In re Century Alum. Co. Sec. Litig.*, 729 F.3d 1104, 1106 (9th Cir. 2013).

expert acknowledged in parallel litigation,[4] it is possible to use accounting methods like first in-first out (FIFO) or last in-first out (LIFO) to identify in discovery the chain of title by which securities flow from one account to another. The best answer is to enable tracing (not assume its impossibility) through a modern procedure reflective of the technology available today.

Given the attempts by some to expand the tracing requirement so that it can block all Section 11 actions (as discussed below), we particularly fear that any decision in this case that uses the traditional, outdated language of tracing (or assumes its impossibility) will incentivize practices that deliberately seek to "commingle" some modest amount of unregistered securities with a much larger pool of registered securities in order to contaminate that larger pool. This approach, if tolerated, could bar standing across the board and imply the death of Section 11 litigation. Such an outcome would result in a significant loss in investor protection.

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4. Declaration of Dr. Jonathan A. Brogaard, Exhibit J To Declaration of Matthew S. Kahn Iso Defendants' Opposition To Plaintiffs' Motion for Class Certification - Public Redacted Version, In re Slack Technologies Inc. Shareholder Litigation, at *21, Lead Case No. 19-Civ-05370 (Ca. Sup. Ct., Jan. 18, 2022) ("Thus, while it may be theoretically possible to trace a single putative class member's purchases of Slack Stock to a seller who held the shares prior to the Direct Listing, as a practical matter, it would be a time-intensive and complex process to attempt to perform this tracing exercise for all putative class members . . . ."). As we explain *infra*, we believe this task is less time-intensive and complex than Dr. Brogaard suggests, especially with the emergence of the Consolidated Audit Trail.

Accordingly, if this Court is dissatisfied with the decision of the Ninth Circuit below, it still would be premature and ill-advised to simply overturn that decision and order dismissal. Given the prevailing confusion over the feasibility of tracing, the better and traditional rule would be to remand the case to give plaintiffs an opportunity to demonstrate that they can trace the actual passage of the securities, using existing records, time-dated tracing, and conventional accounting rules. Such a showing should not only enable respondents to demonstrate their own standing as the holders of registered shares, but also would chart a clear path for securities litigation for the future. Any other outcome will preserve a myth that invites exploitation and will eventually embarrass courts in the future.

Ultimately, if a standing issue can be simply resolved (and not cynically exploited), it benefits all to resolve it efficiently so that the parties can proceed at low cost to the real merits of the case.

ARGUMENT

A. It is straightforward to trace purchases of securities in the secondary market using account-level data on transaction times and an accounting method such as first-in-first-out (FIFO) or last-in-first-out (LIFO).

The decades-old folk wisdom is that tracing securities to a newly issued registration statement is "often impossible" because "most trading is done through brokers who neither know nor care whether they are getting newly registered or old shares," and "many brokerage houses do

not identify specific shares with particular accounts but instead treat the account as having an undivided interest in the house's position." *In re Century Aluminum Co. Sec. Litig.*, 729 F.3d 1104, 1107 (9th Cir. 2013); *see also Barnes v. Osofsky*, 373 F.2d 269, 271–72 (2d Cir.1967); Grundfest Amicus at *7 ("[W]hen the lock-up expires and exempt shares legally enter the market, all subsequent purchasers lose Section 11 standing because no purchaser can then trace her shares to the allegedly defective registration statement").[5]

These pronouncements were, at one time, reasonable. But today they rest on antiquated assumptions. Modern computing power makes it technologically feasible to trace the purchase of securities to an allegedly misleading registration statement. Broker-dealers, exchanges and FINRA are required by law to maintain detailed, time-stamped transactional records which can be obtained through discovery. *See, e.g.*, 17 CFR § 240.17a-3(a)(6) (requiring broker-dealers to maintain detailed records on individual orders including "the time the order was received, the time of entry, the price at which executed,

5. We have considerable respect for Professor Grundfest, but his article—published in 2015—appears to misunderstand the capabilities of modern-day computing technology to analyze electronic brokerage records. *See* Grundfest Amicus at *1 n. 2 (citing Joseph A. Grundfest, *Morrison, the Restricted Scope of Securities Act Section 11 Liability, and Prospects for Regulatory Reform*, 41 J. Corp. L. 1 (2015)). Not only have technological advances over the past decade been substantial, but FINRA Electronic Blue Sheets and, most importantly, the Consolidated Audit Trail (which did not exist at the time his article was published), provide a *centralized* repository for these data as we explain *infra*.

the identity of each associated person, if any, responsible for the account . . . and, to the extent feasible, the time of execution or cancellation"). These records show exactly when securities in one account are transferred to another account, whether within the same broker-dealer or between different broker-dealers. Moreover, today all these records are contained in a central repository known as the Consolidated Audit Trail (CAT), such that there is no need for plaintiffs to subpoena individual broker-dealers.[6] This makes it possible to reconstruct a reliable "chain of title," *Century Aluminum*, 729 F.3d at 1106, using standard accounting methods like first in-first out (FIFO) or last in-first out (LIFO).

While this analysis might seem complex at first glance, it is no more than a straightforward accounting calculation. Consider a simple example. Suppose A receives 100 unregistered shares on Monday and 100 registered shares on Tuesday.[7] On Wednesday, A sells 100 shares to

6. Information in the CAT, which includes customer identifying information, is discoverable. *See* Joint Industry Plan; Order Approving the National Market System Plan Governing the Consolidated Audit Trail, Rel. No. 34-79318, Nov. 15, 2016, https://www.sec.gov/rules/sro/nms/2016/34-79318.pdf ("[T]he CAT NMS Plan provides that the confidentiality provision does not restrict disclosures required by: . . . an order, subpoena or legal process;"). Similar records are also collected by FINRA in a form known as the Electronic Blue Sheets, which are also subject to subpoena.

7. This generic example encompasses the facts of the matter before the Court. For example, suppose A receives 100 shares on June 19, 2018 and 100 shares on June 21, 2018, both subject to the one-year holding period under Rule 144. On June 19, 2019, the holding period for the shares awarded on June 19, 2018 expires and these unregistered shares are free to trade. These shares remain unregistered the next day, June 20, 2019, the date of Slack's

B. On Thursday, B sells 100 shares to C. Applying a "first in-first out" (FIFO) accounting method, we can conclude that on Wednesday, A sold 100 unregistered shares to B, who sold them to C on Thursday. On Friday, A holds 100 registered shares and C holds 100 unregistered shares.

This reasoning applies within the same trading day as well. Suppose A receives 100 unregistered shares on Monday and 100 registered shares on Tuesday. On Wednesday at 10:00:01.578913971 (i.e., 10:00am, 1 second and 578913971 nanoseconds), A sells 100 shares to B. On Wednesday at 10:00:01.593210046 (i.e., 10:00am, 1 second and 593210046 nanoseconds), A sells 100 shares to C. Applying the FIFO accounting method leads to the conclusion that on Wednesday at 10:00:02, B owns 100 unregistered shares and C owns 100 registered shares.

In parallel litigation in state court, Petitioner's expert acknowledged that it is possible to trace shares by employing "an allocation rule (such as last-in first-out ("LIFO") or first-in first-out ("FIFO")) to choose a tracing path for [each] seller's shares."[8] Petitioner's expert

direct listing. By contrast, the 100 shares awarded on June 21, 2018 are still within the one-year holding period as of June 20, 2019, and thus are registered under the registration statement. We can thus conclude that as of June 20, 2019, the date of Slack's direct listing, A received 100 unregistered shares followed by 100 registered shares. As an aside, while issuing separate CUSIPs for registered and unregistered shares may be technically feasible in some situations, it presents certain practical difficulties, and it is not necessary to engage in tracing.

8. *See* Brogaard, *supra* note 3, at *16. In his report, Dr. Brogaard acknowledges that it is "theoretically possible to trace a single putative class member's purchases of Slack Stock to a seller who held the shares prior to the Direct Listing" but suggests that

identified the sort of data which would be required to conduct this analysis, conceding that it is "theoretically possible" if the data were obtained from individual broker-dealers[9] (a task that is, in fact, no longer necessary because these records are discoverable from the Consolidated Audit Trail).[10]

To be sure, it is computationally demanding to perform this analysis across tens or hundreds of millions of purchases at nanosecond intervals. But computing power and algorithmic sophistication have come a long way since the 1960s and 1970s when courts concluded that it is "impossible" to trace the purchase and sale of securities in this manner. As technology evolves, so should the law. Certainly, developments with offerings and its regulations have changed dramatically from the earlier paper-based process; our counsel here is that the forensics for stabling an investor's claim involving "such security" is equally amendable to deciding if the security is "such security" without doing violence to Congress' intent.

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tracing is a complicated task which could "potentially involve" a large number of broker-dealers. *Id.* at *21. Dr. Brogaard's report does not mention FINRA Electronic Blue Sheets the Consolidated Audit Trail, which as discussed, constitute a centralized repository of this information. *See supra* note 5 and accompanying text.

9. *See id.* at *21 (conceding that "it may be theoretically possible to trace a single putative class member's purchases of Slack Stock to a seller who held the shares prior to the Direct Listing" while asserting that "as a practical matter, it would be a time-intensive and complex process to attempt to perform this tracing exercise for all putative class members").

10. *See supra* note 5 and accompanying text.

B. Accounting methods are ubiquitously employed in the law to trace the transfer of assets through commingled accounts.

Using accounting methods to trace assets transferred through commingled accounts is commonplace. In trust law, a beneficiary may enforce a constructive trust on a wrongful transfer of trust assets, tracing the property through successive transfers among commingled accounts. Restatement (Second) of Trusts § 202 cmt. j (1959). Similarly, it is well-settled law that the holder of a security interest is entitled to trace property transferred through commingled bank accounts: "If proceeds of collateral could be traced into a bank account, such proceeds would be deemed identifiable, and subject to the security interest." *Brown & Williamson Tobacco Corp. v. First Nat. Bank of Blue Island*, 504 F.2d 998, 1002 (7th Cir. 1974).

In criminal forfeiture, courts routinely apply accounting methods to trace the proceeds of illegal activity among fungible, commingled assets. To take one example, the U.S. Court of Appeals for the Second Circuit rejected a claim that the "fungibility of money makes it impossible to consider any portion of the depositor's credit balance to be "traceable proceeds" because the credit balance does not represent just the proceeds of drug sales but is instead the net result of various deposits and withdrawals." Rather, "the Government is correct in its view that it can establish a prima facie case for forfeiture in the context of bank accounts by relying on either the "drugs-in, last-out" approach or the "drugs-in, first-out" approach." *U.S. v. Banco Cafetero Panama*, 797 F.2d 1154, 1159 (2d Cir. 1986). Similar principles are applied by courts in community property states in divorce proceedings when tracing the transfer of assets through commingled joint

accounts. *See, e.g.*, California Community Property Law § 6:22 (2022 ed.).

Accounting methods like first in-first out (FIFO) are not only ubiquitous in the law but are routinely employed by broker-dealers to determine share ownership for purposes of tax liability, allocating options exercise notices and closing out positions under Regulation SHO. "As a general rule, when taxpayers hold multiple lots or shares of identical stock, they must compute their gains or losses against the basis of those shares actually sold, not the shares the taxpayer intended to sell. . . . Under the regulations, by default, taxpayers owning blocks of identical stock acquired on different dates or for different prices determine their stock's basis by using the FIFO method." *Turan v. Comm'r of Internal Revenue*, 114 T.C.M. (CCH) 65, 2 (T.C. 2017) (quoting *Davidson v. Comm'r*, 305 U.S. 44, 46 (1938)).[11]

When allocating options exercise notices to short options positions, brokers are generally free to choose an accounting method they prefer (first in-first out or otherwise); moreover, that choice is binding and can only be changed with FINRA's approval.[12] Under Rule 203(b)

11. Consistent with this rule, most broker-dealers adopt FIFO by default. *See, e.g.*, Interactive Brokers, Tax Information and Reporting, https://www.interactivebrokers.com/en/support/tax-us-forms.php Transactions are paired (sells matched with buys) according to the tax basis declaration method selected in Account Management or Client Portal at time of sale, or using the IBKR Tax Optimizer lot selection designated at the time of the trade. FIFO is the default methodology.")

12. FINRA Regulatory Notice 11-35, https://www.finra.org/sites/default/files/NoticeDocument/p124062.pdf ("FINRA Rule

(3) of Regulation SHO, broker-dealers are required to close out any fail to deliver position in a threshold security that has remained open for 13 consecutive settlement days by purchasing a security of like kind and quantity. To determine the age of a position, the SEC has required that broker-dealers employ a modified form of last in-first out (LIFO).[13]

Accounting methods are similarly employed in securities class actions to determine which plaintiff "has the largest financial interest in the relief sought by the class" as required by the Private Securities Litigation Reform Act (PSLRA). 15 U.S.C. § 78u-4(a)(3)(B)(iii)(1)(bb). *See, e.g.*, *Rauch v. Vale S.A.*, 378 F. Supp. 3d 198, 208 (E.D.N.Y. 2019) (applying LIFO to PSLRA lead plaintiff

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2360(b)(23)(C) requires member firms conducting transactions in exchange-listed options to establish fixed procedures for allocating options exercise notices to short options positions in its customer accounts. Firms may elect to allocate exercise assignment notices on: (1) a "first in-first out" basis (FIFO); (2) a random selection basis, as described in Attachment B of this Notice; or (3) another equally random selection basis determined by the firm. However, firms must receive prior FINRA approval for the method selected. Any changes to a firm's allocation method must be reported to and approved by FINRA.").

13. See, e.g., Willkie Farr & Gallagher, The Modified LIFO Method: SEC Staff Interprets Rule 203(b)(3) of Regulation SHO Regarding Aging Failures to Deliver, New Frequently Asked Question 5.8 (April 2006), https://www.willkie.com/-/media/files/publications/2006/04/the-modified-lifo-method-sec-staff-interprets-ru__/files/modifiedlifomethodpdf/fileattachment/modified_lifo_method.pdf; SEC, Division of Market Regulation, Responses to Frequently Asked Questions Concerning Regulation SHO, Question 6.8, https://www.sec.gov/divisions/marketreg/mrfaqregsho1204.htm.

calculation); *In re eSpeed, Inc. Sec. Litig.*, 232 F.R.D. 95, 101 (S.D.N.Y. 2005) (LIFO preferred to FIFO); *Bodri v. Gopro, Inc.*, No. 16-CV-00232, 2016 WL 1718217, at *3 (N.D. Cal. Apr. 28, 2016); *Nicolow v. Hewlett Packard Co.*, No. 12-05980 CRB, 2013 WL 792642, at *4 (N.D. Cal. Mar. 4, 2013) ("The weight of authority puts the most emphasis on the competing movants' estimated losses, using a "last in, first out ("LIFO") methodology."). FIFO and LIFO are also employed at the settlement and post-trial stage of securities cases for calculating damages. *See, e.g.*, *In re Vivendi Universal, S.A. Sec. Litig.*, 284 F.R.D. 144, 160 (S.D.N.Y. 2012) ("damages will be computed using LIFO"); *Jaffe Pension Plan v. Household Int'l, Inc.*, 756 F. Supp. 2d 928, 938 (N.D. Ill. 2010) (applying FIFO to calculate damages).

Moreover, at least one lower court recently applied such accounting methods to trace the ownership of securities to a registration statement when adjudicating a Section 11 claim. In *In re Lendingclub Sec. Litig.*, the U.S. District Court for the Northern District of California applied the last in-first out (LIFO) accounting method to trace a plaintiff's retention of securities purchased under an allegedly misleading registration statement. 282 F. Supp. 3d 1171, 1180 (N.D. Cal. 2017). In *Lendingclub*, the shares at issue were purchased by the plaintiff in an initial public offering (IPO) but commingled with other shares in its account which came into the market after the IPO. The court nonetheless applied LIFO to conclude that the plaintiff retained shares issued under the IPO at the time the suit was filed and thereby established Section 11 standing.

C. Accounting methods like FIFO and LIFO do not amount to "statistical tracing" nor do they involve probabilistic reasoning.

If the volume of shares issued pursuant to an allegedly misleading registration statement is high relative to those which were not, the probability that any given plaintiff purchased the former may be very high. Some courts have found that a probability alone suffices to establish Section 11 standing. *See, e.g.*, *In re Snap Inc. Sec. Litig.*, 334 F.R.D. 209, 224 (C.D. Cal. 2019) (standing established when 99.95% of shares were issued in the IPO); *Sudunagunta v. NantKwest, Inc.*, No. CV-16-1947, 2018 WL 3917865 (C.D. Cal. Aug. 13, 2018) (standing established when 98% of shares were issued pursuant to an initial public offering).

The U.S. Court of Appeals for the Fifth Circuit, however, found that the problem with "statistical tracing" is that if that probability is high enough for any given plaintiff, then logically it must be high enough for *all plaintiffs:* "Because any share of pcOrder.com stock chosen at random in the aftermarket has at least a 90% chance of being tainted . . . every aftermarket purchaser would have standing for every share, despite the language of Section 11, limiting suit to any person acquiring such security." *Krim v. pcOrder.com, Inc.*, 402 F.3d 489, 496–97 (5th Cir. 2005).[14] This reasoning has caused certain courts

14. The *Krim* court pointed to the so-called ecological fallacy as an example of the problem with statistical tracing: "Taking a United States resident at random, there is a 99.83% chance that she will be from somewhere other than Wyoming. Does this high statistical likelihood alone, assuming for whatever reason there is no other information available, mean that she can avail herself of diversity jurisdiction in a suit against a Wyoming resident? Surely

to reject "statistical tracing" arguments when evaluating a plaintiff's claim to Section 11 standing. *See, e.g.*, *In re Quarterdeck Office Sys. Sec. Litig.*, No. CV-92-3970, 1993 WL 623310 (C.D. Cal. Sept. 30, 1993) (rejecting statistical tracing even when 97% of shares were issued pursuant to an initial public offering); *Abbey v. Computer Memories*, Inc., 634 F. Supp. 870, 874 (N.D. Cal. 1986). Regardless, we are not advocating for statistical tracing, but instead for tracing in fact.

Accounting methods like FIFO and LIFO do not amount to "statistical tracing" nor do they involve probabilistic reasoning. They do not make inferences regarding specific purchases from statistics about the population as a whole—rather, accounting methods identify who holds each share at each point in time. As the preceding examples illustrate, and as is widely accepted in numerous other areas of law, the application of an accounting method yields a single conclusion regarding who owns "such security" at each point in time, including at the time that the suit is filed. And contrary to statistical tracing, it is not the case that "every aftermarket purchaser would have standing for every share." Rather, only those who purchased "such security" in the aftermarket which was issued pursuant to the registration statement would have standing, as determined by a deterministic tracing analysis.

not." Krim, 402 F.3d at 497. To reiterate, accounting methods do not make inferences regarding specific purchases from statistics about the population as a whole—rather, accounting methods identify who holds each share at each point in time.

D. The tracing requirement is being deliberately manipulated through the tactic of commingling registered and unregistered shares in order to hide their lineage.

Under Petitioners' view of the law, not only direct listings but also initial public offerings and secondary offerings can be structured so as to eliminate all shareholders' rights under Section 11. Experienced and able practitioners have recently urged clients to employ various techniques by which commingling can be extended to cancel Section 11, even in the context of an initial public offering. Ironically, one of the most vocal proponents of such a technique serves as Counsel of Record for amici The Honorable Jay Clayton and The Honorable Joseph Grundfest in this action. In 2015 (well before this case was in view), he published an article in the *Harvard Law Forum on Corporate Governance* that explained how "a minor change to the customary lock-up agreement" could "prevent Section 11 strike-suiters from tracing their shares to the IPO."[15] Although acknowledging that the conventional wisdom was that shares registered in an IPO could be traced back to the registration statement because there were at that point no other shares available in the market, he showed that lock-up procedures could be easily redesigned to ensure that unregistered shares were always in the market.

Specifically, because the standard lock-up agreement used by underwriters in IPOs precluded sales of the issuer's stock by its management, board, employees, and

15. See Boris Feldman, *A Modest Strategy for Combatting Frivolous IPO Lawsuits*, Harvard Law School Forum on Corporate Governance, March 13, 2015.

associated venture capital firms “usually, until 180 days after the IPO,”[16] one only had to shorten this period to eclipse Section 11. As the article states, “Absent the lock-up, an employee could sell her shares, pursuant to Rule 144, into the market as the IPO had gone effective (provided she held those shares for one year).”[17]

Accordingly, this article recommends that underwriters shorten or eliminate the lock-up agreement for lower ranking employees – with the result that, as of the time of the IPO, both registered and unregistered shares would be contemporaneously offered in the market, thereby in its view denying the ability of the buyers of the registered shares to trace them to the registration statement. Thus, even in the case of immediate trading in the after-market of an IPO, access to Section 11 would also be denied.

This article does not stand alone, and others have advanced similar proposals.[18] Creative minds can probably design many other variations on this theme.[19] To the extent that Petitioners' position in this case is upheld, namely, that the sale of shares from a pool or common

16. *Id.* at p.2

17. *Id.*

18. For a later similar article, also written by attorneys at Wilson Sonsini Goodrich and Rosati (a firm known for its expertise in IPOs), see Nicki Locker and Laurie Smilan, *Carving Out IPO Protections*, Harvard Law School Forum on Corporate Governance (February 25, 2020).

19. Rule 144 is not exclusive, and other attempts to permit non-affiliates of the issuer to sell their unregistered shares immediately with the IPO could be designed to fit under the exemption afforded by Section 4(a)(1) of the Securities Act.

fund which contains both registered and unregistered shares requires (without further inquiry) that a suit based on Section 11 be dismissed for failure to satisfy the tracing requirement, the position advocated by these commentators also becomes correct; they are only carrying Petitioners' position to the next logical step. But the result is to enable underwriters and broker-dealers to insulate themselves from liability by nullifying Section 11 in *all cases*, both in IPOs and seasoned offerings.

Given that respected securities litigators and one of the leading firms specializing in public offerings are publicly recommending this course of action to their clients, we expect that a number of issuers have already taken their recommendation. Predictably, those cases will come next.

The loss in terms of investor protection is deeply concerning. Congress clearly intended Section 11 to be a principal protector of the market's integrity and to permit secondary market investors to use it. As Professors Loss, Seligman and Parades observe in their two volume study:

> It is in its assault on privity that §11 marks its greatest departure from precedent. In the first place, §11…permits the underlying investor to sue both the issuer and the underwriter notwithstanding a chain of title from issuer to underwriter to dealer to investor, and gives the same right of action even to a buyer in the open market, all without the plaintiff's proving that the misrepresentation was addressed to or intended to influence him or her.[20]

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20. See Louis Loss, Joel Seligman and Troy Parades, FUNDAMENTALS OF SECURITIES REGULATION (7th ed. 2018) at 1795.

Congress clearly intended that Section 11 reach registered shares, even in the hands of subsequent holders. However, if Petitioners succeed in this case, the above statement will likely have to be deleted from future editions of the Loss, Seligman and Parades treatise.

The common denominator in efforts to restrict or nullify Section 11 is a *deliberate* attempt to create a common pool or fund containing both registered and unregistered securities, so that the latter securities contaminate the former and deny shareholders the ability to trace their securities back to the registration statement.

To defeat these efforts, we do not argue that this Court should change the law or reverse precedents. All that is needed is that plaintiffs should be given a feasible opportunity to prove tracing and not be stopped by the claim that because some unregistered shares were in the same fund or pool, proof of tracing is impossible. The answer to these problems is simply to make clear that tracing is possible, using standard accounting methods like FIFO or LIFO, and not adopt a per se rule of exclusion. At the moment, Section 11, long the special deterrent that caused corporate defendants to conduct elaborate due diligence in public offerings, is now in jeopardy of becoming irrelevant.

E. The Court should remand to allow the plaintiffs to obtain evidence of tracing through reasonable discovery.

Lower courts, including the district court here, have often held that, as a matter of law, tracing after unregistered shares have been distributed into the market is "virtually impossible." *Pirani v. Slack Techs., Inc.*, 445 F. Supp. 3d 367, 379 (N.D. Cal. 2020), *aff'd*, 13 F.4th 940

(9th Cir. 2021) (quoting *In re Initial Pub. Offering Sec. Litig.*, 227 F.R.D. 65, 118 (S.D.N.Y., 2004)). But as we have explained, this legal conclusion rests on erroneous, antiquated assumptions—in fact, blindness to the facts which as discussed earlier show that with timestamped records, tracing is possible and reliable. It would be undesirably premature to dismiss this case without giving the plaintiffs the opportunity to demonstrate that they can satisfy the "tracing" requirement under Section 11 of the Securities Act and thereby demonstrate their standing to sue.[21]

Moreover, tracing purchases using accounting methods is not, as some lower courts have suggested, "a necessarily individualized inquiry." *In re Initial Pub. Offering Sec. Litig.*, 227 F.R.D. 65, 118 (S.D.N.Y. 2004), *vacated and remanded sub nom. In re Initial Pub. Offerings Sec. Litig.*, 471 F.3d 24 (2d Cir. 2006). Rather, a tracing analysis can be performed for the entire class at once, over the entire Class Period. Indeed, with timestamped records, tracing not only can occur on a Class-wide basis utilizing a single methodology, but the end result will yield a single, deterministic conclusion

21. We take no position on whether discovery for purposes of tracing may constitute a permissible form of jurisdictional discovery exempt from the restrictions under the Private Securities Litigation Reform Act. Some courts have allowed such discovery, notwithstanding the prohibition on discovery prior to resolution of a motion to dismiss under 15 U.S.C. § 78u-4(b)(3)(B). *See, e.g.*, *Tracinda Corp. v. Daimlerchrysler AG*, 197 F. Supp. 2d 86, 94 (D. Del. 2002); *Cent. States, S.E. & S.W. Areas Pension Fund v. Reimer Express World Corp.*, 230 F.3d 934, 946 (7th Cir. 2000), *cert. denied*, 532 U.S. 943, 121 S.Ct. 1406, 149 L.Ed.2d 348 (2001); *In re Baan Co. Sec. Litig.*, 81 F.Supp.2d 75, 76–77 (D.D.C. 2000); *Hansen v. Neumueller GmbH*, 163 F.R.D. 471, 475–476 (D.Del. 1995)).

regarding who owns "such security" at each point in time up until the moment the suit is filed. Notwithstanding the apparent complexity of this analysis, it is straightforward to perform using modern computing technology. Once sufficient data have been obtained in discovery to conduct the tracing analysis, no further individualized inquiry is necessary to determine whether a given individual holds "such security" issued pursuant to the allegedly misleading registration statement.

In recent cases involving securities litigation, this Court has ruled that when the lower court has not considered the critical issue or applied the "right standard," the better approach is to remand and not dismiss. For example, in *Omnicare, Inc. v. Laborers Dist. Council Constr. Indus. Pension Fund*, this Court ruled, after finding the wrong standard to have been applied: "We therefore follow our ordinary practice of remanding for a determination of whether the [plaintiffs] have stated a viable omissions claim (or, if not, whether they should have a chance to replead)." 575 U.S. 175, 195 (2015),

Because the courts below understood tracing to be impossible, this case should be remanded in order to permit plaintiffs to trace their shares.[22] Such a showing will not

22. In fact, it is unclear whether *any* unregistered shares were sold in Slack's direct listing. Defendant's expert in parallel litigation identified only 500,000 unregistered shares sold at 12:08pm on June 20, 2019—well after the Opening Auction and an infinitesimal fraction of the 165 million unregistered shares eligible for sale. Brogaard, *supra* note 3, at *29. If there is no evidence that unregistered shares were actually commingled with registered shares at the time of the Direct Listing, it is even more likely that plaintiffs acquired registered shares when purchasing on that date. This distinct possibility is another reason to remand.

only enable them to demonstrate their own standing, but can chart a well-marked path for securities litigation under Section 11 to follow in the future. Ultimately all will benefit if standing issues can be simply resolved, and the parties can then proceed to the real merits of the case.

CONCLUSION

As this is a case that could effectively curtail or even nullify Section 11 and also one that would incentivize broker-dealers and others to commingle securities to ensure that Section 11 could not be asserted, we urge this Court to remand this case to enable plaintiffs to show that tracing is feasible in this and other cases. The myth of tracing impossibility should not be perpetuated based on antiquated facts and assumptions.

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